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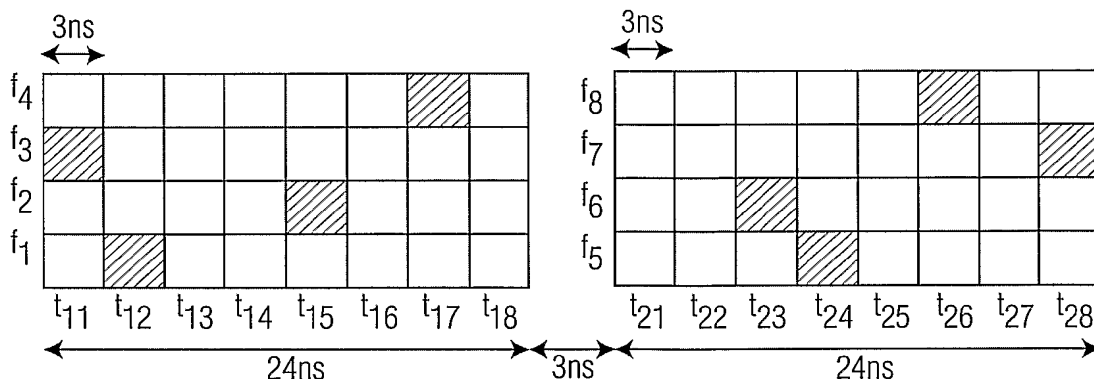
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[Continued on next page]

(54) Title: SERIALIZATION OF MULTI-BAND SEQUENCE KEYING FOR ULTRA WIDEBAND RECEIVER ARCHITECTURE WITH REDUCED COMPLEXITY AND POWER CONSUMPTION



(57) Abstract: By partially serializing the transmission of a sequence keyed UWB symbol (Fig. 2), the number of parallel receiver branches required to receive such a transmission is reduced. The reduced number of receiver paths are re-used during the reception of each of the partially serialized portions of a UWB symbol, and the local oscillator (312, 332, 334, 336) output frequencies are changed for reception of each of those portions. Reducing the number of parallel receiver paths advantageously reduces the amount of power consumed by such a receiver. Similarly, the amount of area required to implement such a receiver in an integrated circuit is advantageously reduced. In a further aspect of the present invention, a synchronization sequence uses less than the complete set of frequency bands (402-408) available for transmission of a UWB symbol.

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